Express Terms

and

Purpose and Rationale Statement

for Work Group 9:M Occupancies

Sections 504.2/506.3/506.4

EXPRESS TERMS

504.2 Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the maximum number of stories is increased by one.
Exceptions:

1. Fire areas with an occupancy in Group I-2 of Type IIB, III, IV or V construction.
2. Fire areas with an occupancy in Group H-1, H-2, H-3 or H-5.
3. Fire-resistance rating substitution in accordance with Table 601, Note e.
4. This increase is not allowed where additions to area increase in Section 506.3 is used.

506.3 Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the area limitation in Table 503 is permitted to be increased by an additional 100 percent (I_s = 1) for buildings with more than one story above grade plane and an additional 200 percent (I_s = 2) for buildings with no more than one story above grade plane.
Exception: The area limitation increases shall not be permitted for the following conditions:

1. The automatic sprinkler system increase shall not apply to buildings with an occupancy in Use Group H-1.
2. The automatic sprinkler system increase shall not apply to the floor area of an occupancy in Use Group H-2 or H-3. For mixed-use buildings containing such occupancies, the allowable area shall be calculated in accordance with Section 508.3.3.2, with the sprinkler increase applicable only to the portions of the building not classified as Use Group H-2 or H-3.
3. Fire-resistance rating substitution in accordance with Table 601, Note e.
4. These increases are not allowed in addition where Section 504.2 is used.

506.4 Area determination. The maximum area of a building with more than one story above grade plane shall be determined by multiplying the allowable area of the first story (A_a), as determined in Section 506.1, as listed below:

1. For buildings with multiple stories above grade plane, multiply by 2;
2. No story shall exceed the allowable area per story (A_a), as determined in Section 506.1, for the occupancies on that story.

Exceptions:
1. Unlimited area buildings in accordance with Section 507.

PURPOSE AND RATIONALE STATEMENT

(SFM) The purpose of these proposed amendments to Sections 504.2, 506.3, and 506.4 of the 2006 IBC is to reasonably maintain the current level of fire/life safety provided by the CBC by reducing the allowable areas calculated for buildings based on construction type and occupancy classification. This is accomplished by lowering by 100% percent the increases permitted when automatic sprinkler systems are installed, by not allowing both an area increase and a story height increase when automatic sprinkler systems are installed, and by reducing the maximum area cap for buildings three stories or greater in height from three times the allowable area for a single story building to two times the allowable area for a single story without modifying the actual allowable area values in Table 503 of the 2006 IBC.

A detailed analysis of the maximum allowable heights and areas permitted by the IBC clearly shows that the IBC allows for much larger heights and areas for specified construction types than previously allowed in California by the CBC. In addition, the code provides formulas for increasing the heights and areas beyond what has been permitted in any of the other model codes in the country.

These formulas are proposed to be modified to restrict the accumulation of these increases for five important reasons:

1) the level of risk, due partially to population and seismic activity, is higher in California;

2) the increases are based on the successful operation of automatic sprinkler systems, however the operation of these systems may be compromised under certain circumstances;

3) the quantity and capability of emergency response resources is based on the infrastructure and building design that has existed in California for decades under the CBC. Therefore, it is felt that the level of fire and life safety would be decreased below what we have today in terms of allowable building size;

4) The time needed to research, qualify and justify deviations from model code which would substantially increase heights and areas is not available;

5) If we find, after appropriate research that increases to heights and areas are not warranted in the state of California, it would be very difficult to reduce these numbers in the future and our fire losses would likely increase in the meantime as these larger buildings suffer fires.

It is important to note that the values in the heights and areas tables in all building codes provide artificial limits on building size. The heights and areas limitations in the IBC with the accumulated modifiers were developed in response to the need to not adversely impact the re-use of the existing building stock in those areas of the country under a previous legacy model code. Since the UBC contained the most conservative heights and areas limitations and the accumulation of such modifiers was not allowed, this action will not adversely impact the re-use of existing buildings in California. The modifiers have existed in every model code but no code has previously allowed the use of all modifiers for a single building as allowed by the IBC. Only experience can measure the increased level of risk.